



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/839,135      | 04/23/2001  | Mitsushi Yoshioka    | 392.1714            | 1599             |

21171 7590 03/10/2004

STAAS & HALSEY LLP  
SUITE 700  
1201 NEW YORK AVENUE, N.W.  
WASHINGTON, DC 20005

EXAMINER

LUK, EMMANUEL S

ART UNIT PAPER NUMBER

1722

DATE MAILED: 03/10/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

A-S

|                              |                                      |   |  |
|------------------------------|--------------------------------------|---|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>09/839,135 | <b>Applicant(s)</b><br>YOSHIOKA, MITSUSHI |  |
|                              | <b>Examiner</b><br>Emmanuel S. Luk   | <b>Art Unit</b><br>1722                   |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 2/2/04.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 3 and 4 is/are allowed.
- 6) ☒ Claim(s) 1, 2 and 5-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. Claim 1, 2, 5-9 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shibuya (6051896) in view of Chaya (5818666).

Shibuya teaches the claimed apparatus having an injection mechanism with a movable section (51) linked to the screwshaft (Ks) extending in an axial direction, an outer frame (4), a fixed section attached to the outer frame, extending in the axial direction (84, 85a, 85b, 85c, 85d), a plurality of linear motors (3) each comprised of a movable section, an outer frame and fixed section surround the screw shaft (Fig. 1, 11, 12).

Shibuya fails to teach the fixed section detachably attachable to the outer frame and an adjuster.

However, the fixed sections comprise of separate elements from the outer frame (4) and upon disassembly of the apparatus would allow for the detachment of the elements. Thus it would have been obvious to one of ordinary skill in the art to recognize that the fixed section is detachably attached to the outer frame.

Chaya teaches a linear motor, wherein a position adjustment means (Fig. 6) adjust the gaps between the magnets (13) and the corresponding inner yokes (12) on which the linear motor magnetic circuit coils (9) arranged on the head carriage (6) are respectively wound and thus maximizing the efficiency of the of magnets (Col. 1, lines 50-52).

It would have been obvious to one of ordinary skill in the art to modify Shibuya with adjuster as taught by Chaya because it allows for adjusting the gap between parts and thereby improve efficiency of the magnets.

4. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shibuya et al in view of Wacker (EP 0744815 A2).

Shibuya teaches the claimed apparatus as shown above.

Shibuya fails to teach a linear guide.

Wacker teaches linear motor elements (PM) on a frame (T) that surrounds the element (P), a linear guide is provided at a point in the frame represented at SP.

It would have been obvious to one of ordinary skill in the art to modify Shibuya with a linear guide to the frame as taught by Wacker because it ensures the movable section moves accordingly in the desired direction.

5. Claims 12-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Emoto (5679384) in view of Chaya (5818666).

Emoto teaches the claimed apparatus having having an outer frame (11), the outer frame having movable sections (56) and a fixed section (41) attached to the outside portion of the outer frame, the outer frame and fixed sections are arranged to surround the screw shaft (63). The first portion (63) is attached to the injection unit (12), the second portion detachably attached to the frame (41) facing the first portion, the second portion is disposed in a hole in the frame and relative to the first portion.

Emoto fails to teach adjuster.

Chaya teaches a linear motor, wherein a position adjustment means (Fig. 6) adjust the gaps between the magnets (13) and the corresponding inner yokes (12) on which the linear motor magnetic circuit coils (9) arranged on the head carriage (6) are respectively wound and thus maximizing the efficiency of the of magnets (Col. 1, lines 50-52).

It would have been obvious to one of ordinary skill in the art to modify Shibuya with adjuster as taught by Chaya because it allows for adjusting the gap between parts and thereby improve efficiency of the magnets.

***Allowable Subject Matter***

6. Claims 3 and 4 are allowed.

7. The following is an examiner's statement of reasons for allowance: The prior art of record fails to teach a molding machine having a linear motor on the fixed section and movable section, wherein the fixed section of the linear motors are detachably attached to the outer frame or the fixed section is a lid to the hole section in the outer frame. The closest prior art, Shibuya, fails to teach this detachable fixed section.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Response to Arguments***

8. Applicant's arguments, filed 11/26/03, with respect to the rejection(s) of claim(s) 1, 2 and 5-15 under Emoto, Shibuya, Chaya and Wacker have been fully considered and are not persuasive. Chaya teaches the newly added changes to the independent claims concerning the adjuster for adjusting the gap between the magnets. New ground(s) of rejection have been made to reflect these changes with the incorporation of Chaya to the main rejections.

### ***Conclusion***

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Emmanuel S. Luk whose telephone number is (571)

272-1134. The examiner can normally be reached on Monday-Thursday 7 to 4 and alternate Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wanda L. Walker can be reached on (571) 272-1151. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

EL

  
W. L. WALKER  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 1700